

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A wireless locking/unlocking device for a vehicle comprising:

a vehicle side transmitter for sending a request signal to at least a predetermined zone in a vehicle compartment;

a wireless portable unit for sending a response signal in response to the request signal;

a vehicle side receiver for receiving the response signal;

a position detector for detecting the position of the portable unit depending on whether or not the response signal received by the vehicle side receiver coincides with ID information stored in the vehicle;

a controller for outputting a locking signal based on a detection result of the position detector; and

an actuator for bringing a door lock mechanism into a locking state in response to the locking signal;

an all-door closing detector which detects that all the doors of the vehicle are closed after a condition that at least one door is open and generates an all-door closing detecting signal, wherein the vehicle side transmitter sends the request signal in response to the all-door closing detecting signal and if it is detected that the portable unit exists within the vehicle compartment by the position detector, stops sending of sequent request signals, and if it is detected that the portable unit exists within the vehicle compartment by the position detector, the controller prohibits an output of the locking signal;

a second vehicle side transmitter for, after the position of the portable unit is detected by the position detector based on the request signal, sending the request signal to the predetermined zones within the vehicle compartment and around the vehicle; and

a second position detector for detecting the position of the portable unit depending on whether or not the response signal in response to the request signal sent by the second vehicle side transmitter coincides with ID information inherent of the vehicle,

wherein the second vehicle side transmitter, if it is detected that the portable unit does not exist within the vehicle compartment by the position detector, sends the request signal to the predetermined zones within the vehicle compartment and around the vehicle intermittently, and

wherein the controller, if it is detected that the portable unit does not exist at least outside the vehicle by the second position detector when it is detected that the portable unit does not exist within the vehicle compartment by the position detector, outputs the locking signal.

2. (Original) The wireless locking/unlocking device according to claim 1, wherein the vehicle side transmitter sends the request signal to a predetermined zone within the vehicle compartment and a predetermined zone around the vehicle alternately and repeatedly multiple times and when it is detected that the portable unit exists within the vehicle compartment, stops repeating of the sending of the request signal.

3. (Canceled)

4. (Currently Amended) The wireless locking/unlocking device according to claim 1 [[3]], wherein the second vehicle side transmitter sends the request signal to the predetermined zones within the vehicle compartment and around the vehicle alternately and repeatedly multiple times in an intermittent transmission cycle and when the second position detector detects an existence of the portable unit within the vehicle compartment, stops sending of the request signal and is shifted to a next intermittent transmission cycle and if the second position detector is incapable of detecting an existence of the portable unit in an intermittent transmission cycle, the intermittent transmission of the request signal is stopped, and wherein

the controller, if the second position detector is incapable of detecting the existence of the portable unit in an intermittent transmission cycle, outputs the locking signal.

5. (Currently Amended) The wireless locking/unlocking device according to claim 1 [[3]], wherein the second vehicle side transmitter, if the second position detector detects an existence of the portable unit within the vehicle compartment in an intermittent transmission cycle, stops sending of the request signal and

the controller, if the second position detector detects an existence of the portable unit within the vehicle compartment in an intermittent transmission cycle, prohibits output of the locking signal.

6. (Currently Amended) A wireless locking/unlocking device for a vehicle comprising:

a vehicle side transmitter for sending a request signal to at least a predetermined zone in a vehicle compartment;

a wireless portable unit for sending a response signal in response to the request signal;

a vehicle side receiver for receiving the response signal;

a position detector for detecting the position of the portable unit depending on whether or not the response signal received by the vehicle side receiver coincides with ID information stored in the vehicle;

a controller for outputting a locking signal based on a detection result of the position detector; and

an actuator for bringing a door lock mechanism into a locking state in response to the locking signal;

an all-door closing detector which detects that all the doors of the vehicle are closed after a condition that at least one door is open and generates an all-door closing detecting signal, wherein the vehicle side transmitter sends the request signal in response to the all-door closing detecting signal and if it is detected that the portable unit exists within the vehicle compartment by the position detector, stops sending of sequent request signals, and if it is detected that the portable unit exists within the vehicle compartment by the position detector, the controller prohibits an output of the locking signal;

~~The wireless locking/unlocking device according to any one of claims 1 to 5, further comprising:~~

a door opening detector for detecting a change of state that at least one vehicle door has changed from its closed state to its open state;

a third vehicle side transmitter for sending the request signal to the predetermined zone ~~zones~~ within the vehicle compartment and around the vehicle in response to the door open state detected by the door opening detector; and

a third position detector which detects the position of the portable unit in response to the door open state detected by the door opening detector depending on whether or not the response signal coincides with ID information stored in the vehicle,

wherein the vehicle side transmitter, if the third position detector detects an existence of the portable unit within the vehicle compartment and around the vehicle, sends the request signal to at least the predetermined zone within the vehicle compartment.

7. (Canceled)

8. (Currently Amended) A wireless locking/unlocking device comprising:

a transmitter for sending a request signal;

a receiver for receiving a response signal including an ID code sent from a portable unit carried by a user in response to the request signal; and

a controller for controlling the locking/unlocking of an opening/closing body corresponding to whether or not the ID code is received by the receiver; and

a closing timing detector for detecting that the opening/closing body has just closed,

wherein the transmitter sends a request signal to the vehicle compartment in response to closing of the opening/closing body detected by the closing timing detector, and

wherein when a response signal responding to a request signal sent within the vehicle compartment is received, sequent sending of the request signal to a predetermined zone around the vehicle is prohibited;

wherein when the response signal responding to the request signal sent within the vehicle compartment is not received, the transmitter sends the request signal to the predetermined zone around the vehicle intermittently, and

wherein if the response signal responding to the request signal sent to the predetermined zone is not received, the transmitter sends the request signal again to the vehicle compartment, and the opening/closing body is locked under a condition that the response signal responding to the request signal sent again within the vehicle compartment is not received.

9. (Original) The wireless locking/unlocking device according to claim 8, wherein when a response signal responding to the request signal sent within the vehicle compartment is not received, the transmitter sends a request signal to a predetermined zone around the vehicle intermittently and the opening/closing body is locked under a condition that the response signal responding to the request signal sent to the predetermined zone is not received.

10. (Canceled)

11. (Currently Amended) A wireless locking/unlocking device comprising:
a transmitter for sending a request signal;
a receiver for receiving a response signal including an ID code sent from a portable unit carried by a user in response to the request signal; and

a controller for controlling the locking/unlocking of an opening/closing body corresponding to whether or not the ID code is received by the receiver; and

a closing timing detector for detecting that the opening/closing body has just closed, and

an opening timing detector for detecting that the opening/closing body has just opened,

wherein the transmitter sends a request signal to the vehicle compartment in response to closing of the opening/closing body detected by the closing timing detector, and

wherein when a response signal responding to a request signal sent within the vehicle compartment is received, sequent sending of the request signal to a predetermined zone around the vehicle is prohibited,

~~The wireless locking/unlocking device according to any one of claims 8 to 10, further comprising an opening timing detector for detecting that the opening/closing body has just opened,~~

wherein the transmitter sends the request signal to predetermined zones within the vehicle compartment and around the vehicle in response to opening of the opening/closing body detected by the opening timing detector, and

wherein under a condition that the response signal responding to the request signal sent to the predetermined zones within the vehicle compartment and around the vehicle is received, the transmitter sends the request signal to the vehicle compartment in response to closing of the opening/closing body.

12. (Previously Presented) The wireless locking/unlocking device according to claim 11, wherein the opening timing detector detects the moment that any door of a vehicle is opened when all the doors have previously been closed, and the closing timing detector detects the moment that the last open door is closed so that all the doors are closed.

13. (Currently Amended) The wireless locking/unlocking device according to any one of claims 8 to 9 ~~[[10]]~~, wherein the transmitter prohibits sending of the request signal in response to an operation signal of a switch disposed within the vehicle compartment.

14. (Currently Amended) The wireless locking/unlocking device according to any one of claims 8 to 9 ~~[[10]]~~, further comprising a locking/unlocking detector for detecting the locking state and unlocking state of the opening/closing body, wherein the transmitter prohibits sending of the request signal corresponding to a detection of a locking state.

15. (Currently Amended) The wireless locking/unlocking device according to any one of claims 8 to 9 ~~[[10]]~~, further comprising a timer which starts time counting in response to the detected closing timing of the opening/closing body, wherein the transmitter prohibits sending of the request signal when the timer counts a predetermined time.